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# Suggestions and Instructions for using the Ohio Commercial Farm Account System

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# SUGGESTIONS AND INSTRUCTIONS FOR USING THE OHIO COMMERCIAL FARM ACCOUNT SYSTEM

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## Introduction

This accounting system has been designed for the commercial farmer to help him improve the management of his farm business. For records and accounts to serve as effective tools of management, greater detail and a different approach are needed than that found in most accounting systems available to Ohio farmers.

In addition to making possible a more thorough analysis of the business, it is designed to help you to make decisions and to strengthen the management of farm finances. The assistance with finance management is achieved through the use of monthly summaries of receipts and expenses. These can be verified with the bank statement at the end of each month and through the use of periodic financial statements based on carefully kept inventory records.

Two books -- a five year inventory and depreciation book and an annual cash account book are used in this system. A new cash account book will be needed each year but the inventory book will last for five years. A pocket is provided in the back of the cash book to hold the inventory book and these instructions.

The books are also designed to assist farmers in filing reports for income tax, Social Security tax, refund claims for state and federal gas tax, personal property tax, and industrial insurance. Special attention has been given to providing the essential records for sales and purchases of capital items and of inventories to permit you to take advantage of all legal deductions and capital gains and losses when computing farm income subject to tax. This system is designed to permit you to keep an accurate record of your farm finances either on a calendar or fiscal year basis.

## General Suggestions and Instructions for Using the New System

Several examples are provided in these instructions and in the inventory and cash books. These examples were designed for the 1959 accounting year and demonstrate how various accounts can be handled. For purposes of clarity and simplicity arabic numbers are used for page numbers in the cash book and alphabetic letters to identify pages in the inventory book.

1. Keep a farm bank account. You will find it easier to keep accurate records if separate farm and personal bank accounts are maintained. Separate accounts are not necessary to use this system, but the advantage gained will more than compensate for the small added cost.

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[1] The authors wish to gratefully acknowledge the valuable assistance of L. H. Barnes, Extension Economist Farm Management in reviewing these instructions.

You can secure a checkbook through your bank with numbered checks and a generous space on the stub to record the purpose for drawing the check. These business type checkbooks usually carry three checks per page. They can be secured at nominal cost and usually carry the farm name, address and a generous space for recording the items paid for with each check. Commercial farmers paying all bills by check usually need 200 to 500 checks each year.

2. Pay all bills by check. We suggest all bills be paid by check from the farm bank account. A day or petty cash book should be used to record payment of bills that must be paid with cash. Record in it the date, to whom paid, for what, and the amount. Total these day book entries periodically. Then they can be covered by writing a check drawn on the farm bank account to reimburse the operator for his cash expenditures. Items paid for with cash should be appropriately entered on the expense page when the check is drawn to cover the personal cash outlay for farm expenses.

3. Deposit all income in the farm bank account including that received in the form of currency. Make out your farm bank account deposit slips in duplicate, one for the bank and one for your records. On each deposit slip, record from whom the money was received and for what. Entries on the farm account receipt pages can be taken directly from your copy of the deposit slip. These can be supplemented with settlement statements, weigh bills and monthly statements from the milk company, livestock buyers, grain elevators, etc.

4. Get monthly statements for purchases. The use of itemized monthly statements can help you manage the farm on a business basis. Payment of bills and recording transactions are simplified if you get a statement from your suppliers at the end of each month. When these bills are paid, keep the itemized portions for future reference and record on it the check number and date paid, then enter the expenditures in the account book. At times you may make only a partial payment on your account at the feed or implement store. In these cases where you are paying something on an open account it would be desirable to so designate on your check, such as; "$17.40 for 2.4 T. fertilizer for corn and soybeans, plus $38.40 for cow feed delivered in April plus $41.60 on May feed account." In this way you are showing what this check is paying for.

5. Make your monthly bank statement work for you. Have your bank mail your farm bank account statement and cancelled checks each month. Verify your expense and receipt entries in the account book and check your bank balance. This may be a convenient time to record receipts and expenses in the account book.

Total deposits and withdrawals for any given month entered in the farm account book can be made to balance with the bank account. This will require an adjustment for checks written that have not cleared the bank and a deduction for the bank charges.

6. Pay the total expenses and get total receipts, not the difference on two-way transactions. The ease of keeping the record will be increased if you arrange with the people to whom you sell or for whom you render services such as custom work and from whom you purchase supplies or services to issue to you a check for the total amount owed you and for you to issue them a check for the total amount you owe rather than a check for the net difference. By following this practice, the check you receive from them will represent the total value of the commodity sold and can be entered as a receipt. Likewise, the eheck you give them for the total goods and services secured can be entered on the expense page.

## General Suggestions for Using the Five-Year Inventory Book

A complete record and careful evaluation of farm assets and liabilities, at least at the beginning of each year, is basic to sound farm management for several reasons:

1) It enables you to arrive at an accurate determination of your net worth. With constant changes in prices and the growing use of credit, it is necessary that you keep informed on your financial position.

2) It enables you to measure your economic progress in terms of the change in net worth over a period of years by comparing the present with earlier inventory and financial statements.

3) A properly taken and summarized farm inventory (the farm financial statement) is a major factor in securing credit.

4) It provides the complete basis for figuring depreciation and capital gains and losses for income tax determination.

5) It makes it possible to accurately summarize the year's business and to determine (a) farm income, (b) labor and management income and (c) rate of return on investment and other useful measures of farm efficiency and success.

Most farmers report their income subject to tax on the cash receipts and disbursements basis. Under this system, it is not necessary to have and keep a complete inventory of all farm assets. However, the need to determine annual depreciation has necessitated an inventory of machinery, equipment, buildings and fixtures. In addition, a few farmers in recent years have set up an inventory of purchased breeding stock to be able to determine depreciation, capital gains and losses. It is desirable for farmers to keep a complete inventory of their assets including a record of the quantity, number and market value of crops, market animals and home-produced breeding stock. This is required for farmers reporting their income subject to tax on the accrual basis and for farmers on the cash receipts and disbursements method who wish to get an accurate picture of their financial condition and to use their farm records and accounts as a means to improving the management of their farm business.

Although you keep a complete inventory of all assets and liabilities, you do not need to report income on the accrual basis. The summary on page 56 and the financial or net worth statement on page 58 in the annual cash book require that a complete inventory be taken at the beginning of each year. However, the summary for determining income subject to tax on page 57 is designed for reporting on either the cash or the accrual basis.

The five-year inventory book has been designed to reduce the labor of taking the annual inventory by minimizing the recopying of individual items from one year to the next. In the case of the machinery and equipment inventory and the building and fixture inventory, this has been accomplished by listing or providing space for listing the various machines, buildings, etc. in the left hand stub and by providing a place for recording depreciation each year for a period of 5 years. Similar arrangements have been provided for invoicing grain, hay, supplies and livestock kept for sale. Only in the case of raised and purchased breeding stock will it be necessary to recopy the information each year. Space is provided in the book for 5 annual inventories of raised and purchased breeding stock, but it will be necessary to relist the names or numbers of the animals in the various categories at the beginning of each year.

Procedure for Taking the Inventory

The inventory should be taken as near the start of the business year as possible (January 1 if the record is kept on a calendar year basis). After the first inventory is taken and properly recorded, the machinery and equipment and the building and fixture inventories can be brought up-to-date by recording items added and dropping items sold, junked, dismantled or otherwise disposed of. Purchases and sales will appear in the cash book. A red line can be drawn through the line listing a piece of farm machinery in the year following its removal from the farm. This practice helps prevent errors in adding. The first time grain, hay and supplies are invoiced, more effort will be required to accurately measure cribs, bins, mows, silos, etc. and to determine contents than at future inventory dates if a record is kept of dimensions and capacities.

In the case of livestock, each species may call for slightly different procedure. In the case of the dairy, all animals in the milking herd should be individually identified with an ear tag or some other practical means of identification. This is desirable for inventories for financial or accounting purposes and for individual production records. Purchased or raised heifers should be identified and listed individually.

In the case of commercial swine, beef, sheep and poultry it is generally desirable to group them by age and class (sow, gilts, boars, cows, bred heifers, yearlings, calves, bulls, etc.), recording those raised on the pages for raised breeding stock and those purchased on the pages for purchased breeding stock.

Market animals raised for sale such as swine, cattle, lambs, and broilers or purchased for resale should be grouped by age, quality, etc. The number in each group should be counted and a careful estimate of average weight determined and recorded on pages FF and GG.

Placing Values on Items Invoiced

There are two principal methods of establishing the value of items included in the inventories that we would like to call to your attention. One of these can be classed as remaining investment value and is arrived at by deducting depreciation allowances from original cost. A machinery shed built in 1941 for $1200 on which a depreciation allowance of $40 a year has been taken at the start of 1961 would have a remaining investment value of $400 ($40 x 20 years = $800; $1200 - $800 = $400).

A bull costing $600 when purchased in 1958, that is expected to sell for $200 for beef at the end of his service, after being in use for 4 years, ($600 - $200 = $400 ÷ 4 years = $100 per year x 3 years [1958, 1959 and 1960] = $300; $600 - $300 = $300) would have a remaining investment value of $300 at the beginning of 1961.

Current market value is the other principal method we want to consider. Corn, hay, feeder hogs, fattening lambs and other items raised for the market can be valued by multiplying current market prices (less cost of delivery to market) by the number of pounds, bushels or tons of the items on hand at inventory time. A value of breeding stock can also be assessed in a similar way. What would it cost to replace your cows, sows, bull or hens with animals of similar quality, age and condition? For the farm itself, a tractor, or piece of farm machinery you can also estimate what it would cost to replace what you now have with a comparable item.

There are other methods by which we could assess value. These two are of primary interest to us here.

Each method of establishing value has its advantages and uses. For income tax purposes we are required to use values based upon the cost (cost less depreciation to date) of the capital items such as buildings, machinery, and purchased breeding stock.

The current market value of grains, hay and market livestock is desirable for almost all purposes, whether it be for analyzing the farm business, decision making, securing credit or tax reporting.

The values arrived at for farm machinery by using cost less depreciation usually is very close to current market price of used machinery, if a realistic expected life is used to compute depreciation.

The main items where you may find it desirable to establish more than one kind of value is for the farm and its buildings and improvements. As was mentioned before for income tax purposes it is necessary to base depreciation upon original cost. But for most other purposes it is better to value the land, your buildings and improvements, and raised breeding stock based upon current market prices of real estate and livestock. Breeding stock values probably should be based upon conservative market prices. When applying for a loan, a net worth statement using values based upon current market prices will more accurately reflect your equity position. To illustrate let us suppose that you purchased your 220 acre farm in 1940 for $30,000 ($150 per acre) and that your farm is the equal of a neighbor's farm that sold recently for $400 per acre.

Suppose you now have a $25,000 mortgage on the farm. You probably have added enough in new building construction to offset any building depreciation since 1940. Valuations based upon cost would indicate only a $5,000 net equity in the farm ($30,000 cost less $25,000 mortgage) while value based upon market price (200 acres x $400 per acre = $80,000 - $25,000= $55,000) would show a $55,000 net equity.

There are other times when values based upon current market prices are desirable. One has to decide what activities and enterprises to engage in or whether to discontinue an activity. Values based upon current market prices rather than some past investment figure are more useful in making comparisons, for budgets, for farm plans or other decision making situations and to compute a return to capital.

Instructions for Starting the Inventory

For those already in business who have been deducting depreciation on machinery, buildings, fixtures and purchased breeding stock for the determination of income subject to tax by either method of reporting, it will be necessary to use the unrecovered cost remaining at the end of the preceding year when this book is started. This value will be the cost of the item less depreciation taken to date. For details, see the Farmer's Tax Guide provided by the U.S. Treasury Department, Publication No. 225 and further detailed instructions to follow.

## Taking the Annual Inventory and Determining Depreciation

### Grain, Hay and Supplies

On pages B and C of the five-year inventory book, the amounts of grain, hay, bedding, feed and supplies on hand at the first of the year are entered. In column 1, indicate the year to which the inventory applies. The quantities of corn, oats, or wheat, if not already known, can be determined from cubic measurements of the grain on hand. A bushel of ear corn occupies two and one-half cubic feet of crib space. A bushel of shelled corn or other grains occupies one and one-fourth cubic feet of bin space. The length times the width times the depth of grain divided by one of the above appropriate figures gives the bushels on hand.

Quantities of hay or straw can be secured from the number of bales times the average weight of a bale. Hay quantities can be estimated by dividing the number of cubic feet of hay by 450-500 cubic feet per ton for loose hay and by 175-250 cubic feet per ton for chopped hay.

The quantity of silage on hand may be determined by using a silage table found in numerous handbooks or by determining the cubic content of the silage. In the case of upright silos, multiply the cubic feet by 40 pounds per cubic foot and divide by 2000 pounds to get tons. For horizontal silos, use 30 pounds per cubic foot.

To arrive at value of these commodities, multiply the quantity by the appropriate price. Prices for farm-grown grain, hay, straw, and seeds should be their present market value at the farm. This means the current price being paid at the elevator less the cost of trucking and marketing.

There usually is no established market price for silage. One method for arriving at a value for corn silage is to figure the total value of corn (at market price) in the silage as if it had been harvested for grain. Divide this total by the tons of silage made. To this value per ton add $3.25 per ton for the added costs of harvesting and storage. For the 1960-61 season this amounted to $9.00+ per ton of silage. Grass silage usually is valued at one dollar per ton lower than corn silage.

Raised Livestock Used for Dairy or Breeding Purposes

The dairy cows, sows, ewes, sires or young stock being kept for breeding purposes that have been raised by you should be listed on page D. Purchased dairy and breeding animals are listed on page L because they are subject to depreciation allowances while those that are raised are not.

List animals either individually or in groups--12 ewe lambs, 10 ewes (all born in 1958), or 16 sows (all born in spring of 1959). Enter date they were born. Usually month and year are sufficient. This is helpful at the time of sale to determine whether the gain is short-term (for animals held under one year) or long-term (one year or longer). Only one-half of long-term gains are subject to income tax while the full amount of short-term gains is taxable. Values to be used for home-raised breeding animals should reflect what it would cost to replace them with animals comparable in age and productive capacity.

A place to record death or sale of animals is provided. In case of sale, the net amount received for the raised breeding animal constitutes a capital gain. Place gain in proper column--long-term if held 12 months or more. No capital loss is ever reported for raised breeding stock because cost of acquiring raised animals has already been covered in current operating expenditures for feed, veterinary bills, taxes, insurance and hired labor.

In case of death or sale, the omission from closing inventory would reflect the decrease in worth.

It is possible that one set of columns will not provide enough space to list all of the raised breeding stock for your farm. If you need more space, enough extra pages are provided to permit two or more sets of columns to be used for each year. If more than one set of columns is used be sure to carry over subtotals and transfer totals of all columns used to page 56 and 58 of cash book.

Purchased Livestock Used for Dairy and Breeding Purposes

Purchased cows and heifers, sows and gilts, ewes and ewe lambs and sires for dairy or breeding purposes are to be listed on pages L through EE. Examples on page L illustrate the procedure that would have been followed in the year 1959. Again animals may be listed as individuals or as groups, if purchased. Enter date purchased and original cost. Next, estimate their salvage value. For example, "Spot" cost $300 and you think she will bring $100 (salvage value) when she is culled from the herd. This leaves $200 to be written off as depreciation over her expected useful life of 5 years or a depreciation allowance of $40 per year.

Space is provided in columns 11, 12 and 13 to record cost and depreciation per head for animals bought in groups. In 1958, 35 ewes were purchased for $700. During the year 1959, 3 of these were sold and 2 died. In columns 11, 12 and 13, the unit costs, salvage value and annual depreciation needed in computing changes in inventory and capital gains and losses can be found. These ewes cost $20 per head. The estimated salvage value is $4 per head. The expected life is 4 years, so the annual depreciation allowance is $4 ($20 - $4 = $16 ÷ 4 = $4).

Let us follow through with the 3 ewes that were sold. The 3 would have cost $60, have a salvage value of $12 leaving $48 to be depreciated over a 4-year life. Only $12 has been written off in depreciations in prior years because they have only been on the farm one year. Therefore, their value at the beginning of the year was $48. Since they were only in the flock about one-third of the current year, only one-third of the annual depreciation charge is entered ($12 ÷ 3 = $4) and not being on hand at the end of the year, they have a zero value at that time. These three ewes were sold in early May for $45. The total amount charged off for depreciation at time of sale was $16 ($12 for the first year plus $4 for the current year). The capital gain was $1 [$45 - ($60 - $16 = $44) = $1.] This would be entered as a long-term gain because the ewes were owned more than 12 months.

The procedure for keeping a record of the two that died follows: Enter 2 in the "no. lost" part of column 14 next to the month of death. In column 15, enter "died." In column 16, enter depreciation taken to time of death ($12). Next, subtract the depreciation taken from the cost of the 2 ewes which is (20 x 2 = 40) and enter the difference $28 as a long-term loss in column 19 ($40 - $12 = $28).

At the beginning of each new accounting year set up a new page for invoicing purchased breeding stock, transferring from the previous page the animals still on the farm at the beginning of the year. Ten pages are provided in the book for purchased breeding stock permitting you to use two pages for each year. Additional entries can be made and inserted on extra pages or paper if the space provided is not adequate.

Market Animals, Feeders and Poultry

On pages FF and GG, there is space to list all animals and poultry being produced for market. In order to accurately credit to each year the income produced in that year, it is necessary to figure changes in inventory. Enter the numbers and the average weights of animals being fattened. Price per head or per pound should reflect current market value of these animals. Inventories need to be taken only once a year because the closing inventory of last year is the beginning inventory for the following year.

Poultry is included on this page with fat animals because it is not eligible for depreciation allowances or for capital gains treatment.

Machinery, Power and Equipment

On pages HH to OO inventory forms and depreciation shcedules for tractors, trucks, farm machinery and equipment are found. There are three common methods of figuring depreciation. Any one of the three methods may be used for any new machinery or equipment purchased this year or in the future. If you are at present using one method of depreciating your machinery, buildings and livestock, you are required to continue to use that method or methods for items listed in earlier tax returns.

For example assume that you have purchased a new tractor for $5200, expect it to last for 10 years, and have a salvage value of $200.

For the new equipment you may use (1) "straight line" method (1/10 of $5200 - $200 = $500 per year), (2) "declining balance" method (2 times rate for straight line on unrecovered cost at beginning of each year--no salvage value is deducted) (20 percent x $5200 = $1040) or (3) "sum of year's digits" method applies a different rate each year (the first year is the highest). The fraction is determined by summing the digits of the expected life 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 = 55 for a 10-year expected life. The first year the rate of depreciation would be 10/55 of the total amount to be depreciated. The second year it would be 9/55 (10/55 x $5000 = $909.09). The latter two methods provide for a more rapid rate of write-off in the early years of the life but a slower rate in the later portion of its useful life.

To demonstrate the difference in amounts charged off as depreciation by three methods, see the following table:

Annual Depreciation

| Year | Straight line 10 percent | Declining balance 20 percent | Sum of year's digits |
|---|---|---|---|
| 1st | $500 | $1040.00 | $909.09 |
| 2nd | 500 | 832.00 | 818.18 |
| 3rd | 500 | 665.60 | 727.27 |
| 4th | 500 | 532.48 | 636.36 |
| 5th | 500 | 425.98 | 545.45 |
| 6th | 500 | 340.79 | 454.55 |
| 7th | 500 | 272.63 | 363.64 |
| 8th | 500 | 218.10 | 272.73 |
| 9th | 500 | 174.48 | 181.82 |
| 10th | 500 | 139.59 | 90.91 |
| Total | $5000 | $4641.65 | $5000.00 |
| Salvage Value | 200 | 558.35[1] | 200.00 |

[1] If the tractor is not retired at the end of the tenth year, depreciation may still be computed at 20 percent of the remaining cost, until the salvage value of $200 is reached. No further depreciation may then be taken.

It may be helpful to use one of the faster depreciation methods (declining balance or sum-of-years-digits) if you need to keep current tax obligations as low as possible because of heavy demands for capital to pay for expensive equipment. On the other hand, if you expect higher income in future years, you may prefer to use straight line method on new purchases in order to be able to take more of your depreciation allowances in future years.

With any one of the three methods, it is also possible to write off an additional 20 percent first-year depreciation allowance on new or used tangible personal property. The property must have a useful life of at least six years. This additional 20 percent fast write-off cannot be taken on more than $20,000 on a joint return and $10,000 on an individual return of property purchased in any one year. If machinery is acquired in a trade, only the difference paid is eligible for the extra 20 percent first-year deduction.

In the case of the tractor mentioned above, if purchased this year, its owner could charge off 20 percent or $1040 as additional first-year depreciation in addition to $832 ($5200 - $1040 = $4160 x 20% = $832) of regular first-year with the declining balance method or a total of $1872 the first year. However, only the remaining amount to be depreciated ($3128, $5000 - $1872 = $3128) can be taken during the remaining life of this tractor.

In this 5-year book, it is only necessary to enter information about costs, date acquired, salvage value and method used in computing depreciation once in five years. The examples listed in the 5-year book on page HH show how a trade for a new tractor is handled. The old tractor "M" had a book value or unrecovered cost of $1400. It was traded for a new tractor "K" and $2000 cash difference was paid to the dealer. No capital gains or loss tranaction is reported. The basis for computing depreciation for the new tractor is your book value of old tractor $1400 plus the cash difference of $2000, making a new cost of $3400 regardless of what the "list" or dealer price was of the new tractor. The 20 percent additional depreciation can only be taken on the cash difference paid of $2000. When this $400 of additional first-year depreciation and the salvage value of $400 is deducted, it leaves $2600 to be depreciated. With an 8-year expected life, straight line depreciation would be $325 per year. The additional first year of $400 plus the $325 makes a total depreciation of $725 for the first year.

Note that the corn planter purchased in March and only owned three-fourths of a year is only entitled to three-fourths of one year's depreciation.

Buildings and Improvements

On pages PP through SS, the remaining investment in buildings and permanent improvements and depreciation on these items are to be computed. Each asset is listed here, such as each building, fences erected each year, tile installed each year, water systems and their cost or value

when acquired and the facts necessary to compute depreciation on each item. For tax purposes, you must continue to use the depreciation *method* for buildings and equipment used in the past. On new buildings, you may choose any one of the three methods discussed in the machinery section. The additional 20 percent first-year allowance cannot be used for buildings and permanent improvements.

A building such as a barn or a house usually does not have any salvage value. The cost of salvaging scrap lumber from a building is usually as great as or greater than its market value.

The three examples on page PP illustrate records that can be kept here. A barn erected or acquired in 1949 at a cost of $2500 had an estimated life of 25 years. Using the straight line method, depreciation is $100 per year. The barn had been owned for 10 years previous to 1959 and $1000 (10 x $100) had been charged off as depreciation, leaving a value at the beginning of the year of $1500 ($2500-$1000).

The value at the end of the year (original cost less depreciation to date = unrecovered cost or present value) is $100 less or $1400.

Another example is given for a poultry house erected or acquired in 1949 at a cost of $1500 with an expected life of 20 years. The annual depreciation for this building was $75 ($1500 ÷ 20), and for 10 years (1949 through 1958), the accumulated depreciation charged off was $750. This left a remaining value at the first of 1959 of $750. During 1959, another $75 depreciation was charged off. A new roof and foundation were added to this poultry house in 1959 at a cost of $525. Rather than add this to the remaining unrecovered value of old poultry house it is suggested that this new expenditure be set up on a separate line and a new depreciation schedule be computed to recover this investment. It could have been done by combining the new investment with the unrecovered cost of the old building. But we believe it is more desirable to use a separate entry for several reasons. At times the new investment, a new roof for example, may have a different life than the rest of the building. The building could have a remaining life of 50 years and the roof may only be expected to last 25 years. For another reason, in case of sale, it is much easier to show the total original cost plus added improvements and total depreciation written off in computing capital gains if separate lines are used for each investment.

Any major expenditure such as major overhauls of machinery or remodeling of a building that results in altering the use or appreciably extends the useful life of a building should be considered as a capital investment to be recovered through depreciation. Common items of repairs, maintenance and painting of buildings or repairs or minor overhauls of tractors, trucks and machinery are current operating expenses.

Capital Gains on Machinery

On pages TT and UU, you will find a form to help in computing capital gains or losses on capital items other than livestock that have been sold. Gains are figured from the difference in the sale price and the unrecovered

cost (original cost less depreciation charged off to date). For example, a mower that was purchased in 1949 for $290 was sold in 1960 for $70. The depreciation written off to date was $260 which left an amount yet to be recovered of $30 ($290 - $260 = $30). The sale resulted in a capital gain of $40 ($70 - $30 = $40). Because this mower was used more than 6 months (12 months for productive livestock), it qualified as a long-term gain.

## Suggestions and Instructions for Using the Annual Cash Book

### Recording Farm Receipts

One form is provided for each month on pages 1 through 25.

Write the name of the month at the top of columb B and the day of the month income was received in column A. Column B is for the name of the person or firm from whom payment is received. Columb C is for the item for which income is recieved. If the payment is in the form of one check but is in payment for more than one item, it may be desirable to use a line to record each source of income. If breeding stock or capital equipment is sold, it should be identified in this space. Column D -- be sure to record pounds, bushels, tons, etc. in this space. This data will be needed for farm efficiency analysis purposes.

Column 1. All money taken in by the farm should be entered in column 1. After entering the total in column 1, the amount should be entered again under the appropriate headings, No. 2 to 23. (Details for entries in each of the headings will follow.) A few typical examples are printed at the top of pages 2 and 3. If a check is for three items, such as one might get from the sale of a truck load of livestock, a cull sow, 2 veal calves and 10 market hogs, the net amount received for each after commission and other marketing costs have been deducted should be entered in the appropriate columns. In this case the net from the cull sow should be entered in column 21, the net from the 2 veal calves in column 18 and the net from the 10 market hogs in column 16. Next the amount entered in each of these three columns should be added to see that they total amount received from the livestock buyer and entered in column 1.

Column 2. It is recommended that you first turn to page 64 and record information called for when the milk check and bi-weekly or monthly milk statement is received. For example, in recording data from the statement received with the milk check, enter the month in column A; in column B, enter total pounds delivered; in column C, the butterfat test; and enter in column D the total pounds of butterfat. In column 1, enter the weighted or monthly price per cwt. F.O.B. plant. In column 2, enter gross dollars (total pounds x price). In column 3, enter farm operating expense deductions. In column 4, enter the net amount (column 2 less the total of entries in column 3). In column 5, enter deductions for dairy products purchased from the milk company for home use and deductions made for capital equipment purchased through the milk company that are paid for out of the milk check. In column 6, enter the net amount of the milk check available for deposit to the bank account. After the data has been entered on page 64, the amount entered in column 4 of this page should be transferred to the receipt page, column 2. The amount entered on page 64, column 5 -- dairy products purchased for home use and payment on capital items purchased -- should be entered on the expense page in columns 25 and 26.

For example. If in the month of May, gross sales were 35,500 pounds of 3.5 percent milk (column B) at $3.65 per cwt. (column 1), the gross value would be $1295.75 (column 2) and the hauling cost, $106.50 (column 3). If there was no deduction for feed, etc. the remainder after hauling, $1189.25, would be entered in column 4. Assuming that the farm family had purchased $25.50 of dairy products from the dairy company for family use during the month, and $50.00 was deducted for payment on a bulk tank financed through the milk company $75.50 would be entered in column 5. The balance remaining, $1113.75, would correspond to the amount on the check received from the company and would be entered in column 6.

The entry on the May receipt page would be as follows: date in column A, dairy company name in column B, milk in column C, and 35,500 pounds in column D. Then in column 1 and 2 on the receipt page, make the same entry as appears in column 4, page 64--in this illustration it will be $1189.25. This will be $75.50 larger than the actual milk check if the above entries were made in column 5, page 64. Otherwise, it will be the same as the milk check.

In those cases where the net farm receipts from milk (after charges for hauling, and milk house supplies are deducted) as listed in column 4, page 64 and in columns 1 and 2 on the receipt pages(2 through 24), is larger than the milk check the cash book and the bank account can be made to balance by entering the items included in "Other Deductions" (column 5) in columns 1, 23, 25 or 26 of the monthly expense page 26 through 51.

List the date in column A. In column B, list dairy products bought for family use from the milk company and payment on bulk tank to the milk company. In column C, instead of a check number, write "page 64." In column 1 of the expense page, enter the total deducted from the milk check for commodities purchased from the company for home use and the amount of payment made on capital items purchased through the milk company. In the above illustration, the entry in column 1 would be $75.50. This would then be re-entered $50.00 in column 25 and $25.50 in column 26. When this procedure is followed, the farm operations will not be charged for nonfarm personal or investment expenses.

Columns 3, 4, 5, 6 and 7. These are self-explanatory.

Column 8. This column is intended for recording pay received for occasional labor performed in the community. The income from a regular nonfarm job or business should not be included in the farm record. Salary or wages received would be deposited in your personal account and entered on your 1040 income tax form and not on your 1040F farm tax return. It is not a farm-produced income.

Column 9. Enter in this column all income received for custom machine work and hauling or trucking done for others.

Column 10. Enter payments received from the wool buyer and any wool subsidy payment received from the government.

Column 11. This column should be used for state and federal gasoline and fuel tax rebates, dividends, breeding fees, etc.

Column 12. ASC payments received for lime applied and paid for in full by the farm will be entered here. In those cases where the ASC pays part of the lime or other cost direct to the supplier and the farm pays the remainder, the farm payment would be entered under the appropriate expense column and there would be nothing to enter on the receipt page.

Columns 13 and 14. These are available for use for any additional income breakdown the farmer wishes to make for his own analysis. For instance, he might desire to keep his receipts from trucking separate from custom work.

Column 15. Any receipts from loans obtained for farm purpose from a bank or credit agency that are added to your bank account should be entered here. For example, the amount of money borrowed to pay operating expenses or for an investment, such as a new disc, should be added to your bank account and entered in column 15 as a nonoperating receipt.

Columns 16, 17, 18 and 19. These are for recording receipts from market livestock produced for sale, including all raised or purchased cattle, hogs, lambs, or veal calves sold as feeders or as finished animals.

No entries would be made in these four columns for income received from breeding animals sold.

Columns 20, 21, 22, and 23. These are for recording income received from the sale of breeding animals and for capital items such as a piece of farm equipment sold to a neighbor or a dealer for which a cash payment was received.

## Recording Farm Expenses

As indicated earlier, the task of keeping accounts can be greatly simplified and the accuracy and completeness increased if all farm bills are paid by check on a special farm account. If this is done, the expenses can be entered when paid or at the end of each month when the bank statement and cancelled checks are received. One page is provided in the cash book for each month and an extra page for an overflow month.

Indicate the month at top of column B and the date of check or payment in column A. In column B, enter the purpose for which expenditure was made and to whom paid. See illustration at top of pages 26 and 27.

Column C. List check number or the means by which the item was paid. If with cash, list cash.

Column 1. Enter the total amount paid, then re-enter in the appropriate columns 2 to 26. For example, a check was drawn to pay the Brown Feed Store $389.20 which consisted of $310.20 for feed, $66.00 for fence and $13.00 for one-half bushel of seed. The $310.20 would be listed in column 3, the one-half bushel of seed for $13.00 in column 11, and the $66.00 for 3 rolls of fence in column 25. After entering the three, they should be totaled to make sure that they equal the $389.20 entered in column 1.

Column 2. Hired labor. Before entering any expenditures in column 2, turn to page 65. This page is provided for recording Social Security payments and for determining semi-annual payments due the State of Ohio Industrial Commission for workmen's compensation. The procedure for using page 65 follows -- use the section on the left for January through June and the one on the right for the period of July through December or page 65 for the first half of the year and page 66 for the last half of the year. Wages paid each period can be totaled and a semi-annual industrial report can be easily filled out. It also makes possible dividing each section in half for reporting and making Social Security deposits on a quarterly basis or at any time when the amount due the government reaches $100 (total of columns B and C).

For example. Assume you hire a full-time worker and pay him a weekly wage of $60 and require him to pay his share of the Social Security (in 1960, this was 3 percent of his wage, and you deposited a similar amount). For the week ending January 7, the entry would be as follows -- in the date column, enter January 7; in the next column, his name; in column A (cash wage paid), enter $58.20 ($60.00 - $1.80) which would be the amount of his check. In column B, enter the $1.80 withheld. In column C, enter $1.80 which is the amount contributed by you as the employer. In column D, enter $60, the wage earned (A + B). In column E, enter the weekly value of any farm-furnished item received by the worker in addition to his monetary wage. Assume that a fairly good house is furnished that would rent for $12 per week; also assume that you provide him with milk worth $3 per week, making a total of $15 of farm-furnished items each week. This $15 would be entered in column E. In column F, enter the total of column D ($60) + E ($15) or $75. The account book indicates that the $1.80 listed in column C should also be added. This is true if the desire is to have column F represent the total cost of farm labor. However, if one wishes to use column F as the basis for making out the industrial commission reports, only the total of D and E or $75 should be listed.

After recording wage and Social Security withheld on page 65, transfer the amount listed in column A, page 64 which in practically all cases will be the same as the workers check, to column 2 on the monthly expense page.

In addition to entering the dollars paid labor (wage less Social Security withheld) in column 2, each time a payment on Social Security is made to the Director of Internal Revenue, one-half of the amount should be entered in column 2 on the expense page. This is the amount withheld from the worker. The other one-half contributed by the employer should be listed in column 16 as a farm tax. (See illustration on page 26.)

Column 3. All expenditures for feed, feed grinding and mixing should be listed here. This will include grain and hay purchased as well as supplement minerals, etc. but no charge for home-grown feeds.

Column 4. List expenditures for supplies such as baler twine and spray material and other supplies used in farm operations.

Columns 5 and 6. Include in these columns all expenses for repairs and maintenance that do not increase the value or life of the machine or

building. If an expenditure on a machine or building will noticeably increase its value or life, it is not a repair but a capital investment that should be entered in columns 24 or 25. The value of the item receiving the improvement should be added to the inventory at the end of the year and depreciation taken on the improvement.

Column 7. Record all purchases of gas and oil that are paid for by the farm. Frequently gas and oil purchased by the farm are used in private automobile for personal use. If this is done, there are two ways this can be handled so that only farm used gas and oil will be included in the farm summary. Method 1 -- at the end of the year, total the gallons of gas and oil used for non-farm purposes (use record kept of gas used when determining gas rebates) times the cost per gallon and enter this total on line 13, column 7, page 54. At this point in summarizing the record, the amount will be deducted from the total in line 12, column 7 and the remainder, which will be the farm share, will be entered in line 14, column 7. Method 2 is to deduct the personally used gas and oil from the total each month when the bill is paid. When this is done, the total due the oil company is entered in column 1, the amount used in farm operation is entered in column 7 and the personally used oil and gas are entered in column 26.

Columns 8 and 9. It is common practice for most farms to have one electric meter and one phone for both farm and personal use. We recommend that the farm account pay the total and that this be entered in column 1. Adjustments for the personal share can be handled similarly to that described for recording gas and oil used for non-farm purposes. Some reasonable division of these costs can be arrived at monthly or annually and handled as described above under column 7.

Column 10. Enter here such items as the cost of this account book, the checkbook purchased for the farm business, monthly bank charges, postage, farm stationery, farm organization dues, advertising, etc.

Column 11. Include seed cleaning, treating and innoculation as well as expenditures for purchased seeds. Do not enter the value of home-grown seed in this or any column. The cost of home-grown seed is covered by its cost of production in the form of labor, fertilizer, oil, gas, etc.

Column 12. Self-explanatory.

Column 13. List expenditures for machine work hired, such as combining, corn picking, silo filling, steam sterilization of hog equipment, etc. in this space. Also list direct expenditure for trucking. Do not list milk hauling costs or costs of hauling that have been deducted before payment was made by the purchaser of the crop, livestock, or livestock product sold.

Column 14. The farm share of the use of the auto for transacting farm business is a legitimate farm expense. There are two ways that this cost may be handled. Method 1--a fraction of the investment in the auto, perhaps one-third or one-half, can be listed in the inventory and handled as any other farm machine. (If a pickup or light truck is owned, the farm use of the auto will be less than if the only means of travel is the

automobile.) The other costs of operation of the auto such as tires, repairs, insurance, license plates, etc. can be listed as total auto expense and paid by the farm. If this is done, the cost can be divided at the end of the year with the nonfarm share deducted from the total on page 54, column 14, leaving the farm share in line 14 or it can be divided monthly between the farm and personal columns.

A second method is for the farmer not to include his personal auto investment in the farm inventory or to include the automobile operating cost for tires, gas, repairs, insurance, etc. as a farm expense. With this method you would periodically charge the farm a rate per mile for the miles travelled in farm business. In this event, the farm would pay the operator by check for farm use of the personal auto and the amount paid would be entered in column 14 as a farm auto expense.

Column 15. When payments are made on notes or mortgages enter the interest part of these payments in column 15 and the amount used to reduce the principal or face value of the note or mortgage in column 23.

Column 16. All taxes. Real estate taxes, taxes on farm chattels, employer's share of Social Security tax (other half listed as labor under column 2), truck license, and other taxes chargeable to the farm should be listed in this column. If cash rent is paid for any farmland, enter it here also.

All insurance, fire, wind, liability, workmen's compensation or industrial insurance, insurance on truck, and hospitalization or health insurance carried on farm labor should also be entered here. Some farmers may elect to divide this column 16 by using one of the three extra columns 20, 21 and 22 for insurance.

Columns 17 and 18. Self-explanatory.

Column 19. Enter all purchases of livestock such as feeder cattle, pigs, and lambs that are to be re-sold as market animals in this column. Do not include expenditures for purchased breeding stock here.

Columns 23, 24, 25 and 26. For recording nonoperating expenses paid out of the farm account.

In column 23, list all principal payments on farm debts (interest paid on debts should be listed in column 15).

In column 24, list all capital expenditures for purchased cows, bulls, brood sows, boars or other breeding animals.

In column 25, list all capital expenditures for machinery, equipment, buildings, new or replacement fences, wells, tile, etc.

In column 26, list all nonfarm expenses that are paid out of the farm account. Include all withdrawals (checks written on the farm account payable to the operator). It is by this means that the operator transfers funds from the farm account to his personal account. If the farm account runs low and the operator wished to transfer or loan the farm, money out of his personal account, he would write a personal check payable to the farm.

This would be deposited to the farm account and would be listed as a non-operating receipt in column 15.

The farm account was started by taking a detailed accurate inventory of the available resources. The taking of inventory was followed by a complete recording of all farm business transactions that occurred during the past twelve months. At the end of each month the receipts and expenses were totaled by item. The totals for each month (column 1) should equal the sum of columns 2 through 23 for receipts and columns 2 through 26 for expenses. If these totals do not check, correct your error and check the totals again. After balancing these totals, transfer your monthly totals to the annual summary by months if you have not already done so (pages 52 and 53 for receipts and pages 54 and 55 for expenses). There are columns on the receipts and expense pages in which to record non-operating (usually personal) receipts and expenses, non-farm items, capital investments, borrowings and debt retirement payments. These columns were provided for those who wish to fully account for all expenditures and deposits that will pass through the farm bank account. These non-farm or capital transactions entries will not be used in the summary on page 56. After each of the 12 monthly totals have been transferred to these summary pages they can be totaled and cross checked for the year. The next step is to take the closing inventory.

## TAKING THE CLOSING INVENTORY

The closing inventory should be made in essentially the same way as the beginning inventory. The closing inventory for any year will always be the beginning inventory for the following year.

This procedure also involves the establishment of life expectancies (the number of years to be used in computing annual depreciation allowances) for every depreciable item for which depreciation allowances are to be computed.

Included in this step is the computation of capital gains and losses on items other than market livestock sold. The forms provide spaces on which to compute gain or losses from the sale of livestock held for breeding purposes, machinery, equipment, buildings and farm land. Gains or losses on the farm land and buildings would apply only if part of all of the real estate were sold or transferred. The income tax law includes special provisions of interest to farmers. Your accounting system can earn you several dollars of income each year by taking advantage of these provisions. The following books or pamphlets are very helpful in getting answers to your income tax questions: The Farmers Tax Guide publication No. 225, U.S. Treasury Department Internal Revenue Service can be obtained from your county agent. Your Federal Income Tax and Tax Guide for Small Business may be obtained from the local Internal Revenue office or from the Superintendent of Documents Government Printing Office, Washington 25, D.C. and contain a good presentation of capital gain and loss provisions. Almost any item that is not held or produced for sale is considered a capital asset and when sold is eligible for capital gain or loss treatment. The period of time an asset (an item used in production) is held determines the way tax may be computed. A gain or loss resulting from the sale or loss

of an asset held less than six months is classified as short-term. Gains on assets held longer than six months (with a minimum of twelve months for breeding livestock) are classified as long-term.

## SUMMARIZING THE YEAR'S BUSINESS

Summarizing the year's business permits you to determine how profitable the operation has been in terms of net income after all expenses have been paid. From the information recorded in the summary, your income tax report can be prepared by either of the two methods (cash receipts and disbursements or accrual which ever you are now committed to use.

### Summarizing the Farm Business for Management Purposes

Page 56 is designed for use in making a complete appraisal and/or analysis of the farm business while page 57 is for use in the preparation of income tax returns. One can summarize the record using either a twelve month fiscal or calendar year.

In making summary, the total of the 12 months receipts by item on pages 52 and 53 should be transferred to the cash receipt column on page 56. Next transfer the 12 months total of expenses pages 54 and 55 to the expense column on page 56. On the right hand side of page 56 is a form on which to record changes in inventory, capital gains or losses and depreciation from the inventory book. Note that the amount received from the sale of raised breeding stock is always considered as a gain on IRS schedule D. The income measure net farm profit results when all of the decreases or losses and expenses are subtracted from the increases or gains and receipts.

### Net Farm Profit

"Net farm profit" represents the return or earnings for unpaid family labor, operator labor, owned capital and managerial efforts. "Net farm profit" is the money available for family living, debt repayment and for new farm investment. Some of these earnings may have been already invested in the farm business and show up as an increase in inventory. "Net farm profit" probably indicates the health of the entire farm business better than any other measure we have available. "Net farm profit" can be used to compare the earning of the business over a period of years and to compare our own earnings with the average of those realized on farms of the same type.

Net farm profit can be broken down into the earnings received for its component inputs. The form in the lower right hand corner of page 56 is designed to permit you to determine how much income was earned for the use of your capital, labor and management efforts. The first part of this form permits one to compute interest on your owned capital as that which could be earned if it were invested in some non-farm property of comparable risk. Although we suggest that the current interest rate on real estate mortgage and production credit loans be used, we encourage individual operators to use the interest rates they could receive on their capital if invested in other business or income producing property with comparable risk.

Family and operator labor is another block of resources that have contributed to farm income. The value of labor can be considered to be that which could be realized if employed at a comparable job and under similar conditions. For example, the most comparable opportunity to employ the operators labor if separated from the management responsibility may be that of a hired farm laborer receiving a cash wage plus the value of the typical farm house rent, meat, milk, eggs, garden, etc. furnished by the employer. This is the monthly rate that should be entered for value of operator labor. Use the rate typical for your community. In Ohio the rate per month with house and the usual farm perquisites for dairy farms was $200 to $250 and for general livestock farms was $150 to $200 during 1960. Family labor seldom has the same opportunity as operator labor. This labor may be comparable to labor that could be acquired on a short term basis and requiring considerable supervision. This type of labor was hired for about $1.00 per hour or $150 per month in Ohio during 1960.

Management Income

This measure of earnings refers to that which remains of the net farm income as compensation to the operator for his managerial services after deducting interest on his equity (unencumbered) capital and the value of all unpaid family labor. "Management income" is that which is available as compensation to the operator for the mental effort expended in managing and supervising the farming operation.

Return on Capital

Another way of analyzing the earnings of the farm business is to deduct the value of family and operator labor and a charge for management, leaving the returns to equity capital. This may be done by charging a management fee of 10 percent of gross income after adjusting for change in inventories. Thus the labor and management resource inputs have been paid for, leaving the remaining amount as a return to capital. Dividing the value of your owned capital invested in the farm business into this income will tell you the rate of return.

Summarizing the Farm Business for Income Tax Reporting Purposes when the Cash Method is Used

"Net farm profit" must be computed in a slightly different manner for income tax reporting purposes than for analysis of the farm business. One difference is found in that cost of purchased market livestock may be deducted only in the year of sale. Page 57 is designed to summarize the farm business -- for income tax purposes. You will note that sales of purchased market livestock and the cost of feeder livestock are to be recorded in a special form at the bottom of the page 57 and not in the cash receipts and cash expenses columns. If livestock is sold that was purchased prior to the current year, it will be necessary to look up costs and purchase dates in the record books for the year in which the livestock was purchased and to transfer the information to the form at the bottom of page 57.

The cost of purchased animals sold during the same year that they were purchased can be transferred from page 55, column 19, but be sure to include only the cost of those animals sold during the year. This may require that the cost of some groups of animals purchase be divided into two groups for computation of income subject to tax.

Cash receipts from market animals sold as found on page 53, columns 16, 17, 18, 19 must be divided into receipts from raised and purchased livestock. Income from the sale of raised market livestock (as recorded on page 53) should be recorded in the appropriate space in the cash receipts column. Also note that income from labor off of the farm subject to withholding is not to be included as a farm cash receipt but should be reported on line 5 of your 1040 tax report form.

The form in the upper right hand corner of page 57 is designed to summarize receipts and expenses for determining the farm income figure to be reported on form 1040 F. The total of cash receipts (A) are to be transferred and added to the total profit or loss on the sale of purchased items (C). This total is considered to be the gross profit for the year from the farm business. From this gross profit figure deduct 1) cash expenses (B), 2) depreciation of buildings and improvements, machinery and equipment and purchased breeding stock and, 3) other allowable deductions (see tax guide). Depreciation values can be transferred from page 56. Gross profit less deductions is the "net farm profit" figure to be reported for computing tax on form 1040.

You will note that changes in inventory and capital gains and losses have not been included for summarizing the farm business for tax purposes on page 57. With the cash receipts and disbursements method, which is used by most farmers, changes in inventory are not considered, and capital gains or losses are handled on schedule D.

## Computing Net Farm Profit by the Accrual Method

The Accrual method of reporting income tax requires the use of a "net farm profit" value more comparable to that computed on page 56. When this method is used, start with net farm profit as computed on page 56 and deduct: 1) income from labor off of the farm, 2) capital gains or add capital losses, and 3) increases or add decreases in value of raised breeding livestock. The net result of this computation will be net farm profit on the accural basis which is to be reported on tax forms 1040 and 1040 F.

## Net Worth

Net worth statements are universally recognized as very useful "yardsticks" with which to measure financial progress from year to year. They are very candid pictures of the financial status of the farm business and of the farm family at the time they were prepared. Financial statements can be and are often used very effectively in establishing and maintaining desirable credit ratings with our agricultural credit agencies, negotiating loans, and as a guide to wise and profitable use of credit in the business.

The net worth statement on page 58 is designed to permit comparison of your total assets and liabilities as well as those of the farm. Some of the items can be transferred from the inventory book. For others it will be necessary to make estimates of current market values or to refer to other personal records for liabilities. These entries are self-explanatory.

There are several methods which are used in establishing values to be used in the preparation of net worth statements. The proper method to use must, in all cases, be determined by the purpose for which the statement is being prepared. But for any one purpose we should use the same kind of value at both the beginning and end of the year.

Values placed on assets to be listed in statements which are to be used and filed with your banker and lending agency in negotiating loans, should accurately represent current market values i.e., the amount that the assets would sell for if they were sold on the day the statement is prepared. A comparison of net worth statements as of Jan. 1 and Dec. 31 will show how much your equity in the business has increased or decreased during the year. Comparisons made over a period of years make it possible to trace and accurately measure the economic growth of the farm business as well as other non-farm enterprises which you have carried on during the year.

## ANALYSIS OF THE FARM BUSINESS

Farm accounts are of little value unless they can be and are used for improving the farm business. Accounts are needed to find the parts of the business that are strong and should be expanded and those that are weak and should be strengthened or eliminated. Some measures that may be used in analyzing the year's business are of a general nature and serve as indicators for the entire farm business; others are more detailed, providing guides as to the performance of a particular enterprise or phase within an enterprise. The most effective use of ratios and rates of performance can be made when compared with the performance on other high income farms or when compared with your own pervious year's results. Farm planning for the coming year and years ahead is the most effective way to improve net farm profit. Information obtained from current records kept on your operation can be your best guide.

### Income Tax Management Considerations

Income tax management can be surprisingly effective when adequate records are available. Unlike most other taxes the Federal Income tax is subject to far more control by the tax payer than many farmers realize. Federal Income tax regulations offer many tax saving optional alternatives which farmers may elect to use to legally minimize their income tax payments. We, therefore, suggest that all farmers: (1) keep complete records, (2) familiarize themselves with all tax saving alternative procedures endorsed by the Internal Revenue Service and (3) carefully check their business records early in the fourth quarter of each year to determine what changes could be made in their buying, selling, investment and depreciation schedules that would minimize this year's tax as well as future income tax payments. As there is little that can be done in tax management that will legally minimize tax payments after you have closed your books for the year, it

is highly important that the preliminary checking be done early enough to allow plenty of time to do what can be done before the end of the year.

Volume as Well as Efficiency Needed

High levels of performance per acre, per animal and per man do not necessarily guarantee or assure high net earnings for the operators of farms which do not produce enough volume in relation to their non-variable (fixed overhead) expenses. Adequate size and volume as well as efficiency in the use of all factors of production are prerequisites to satisfactory net earnings.

Return Per Dollars Worth of Feed Fed

This measure of margins realized on feed to livestock indicates the overall conversion rate of the livestock department expressed in terms-of-the-returns realized above the cost or value of all feed fed to all livestock kept on the farm. Causes for relatively low and high returns on feed marketed through livestock are determined by comparing average performances per animal with minimum standards which must be met by producers to realize satisfactory margins above all cost per unit.

Sales of livestock and livestock products should be transferred from page 52 and 53 to the designated space on page 59. Changes in inventory value of purchased and raised breeding livestock and market animals; feeder and breeding livestock purchases should be recorded. Increases in inventories, sales and value of livestock and livestock products consumed should be totaled. From this total subtract the total of decreases in inventories and the value of purchased breeding and market livestock. The resulting total will be the net livestock increase.

The next job is to determine the quantities of feeds consumed and fed to the livestock. Quantities of home produced feeds fed can be determined by using the form on page 59, lines 14 through 21. The amount fed for each type of feed can be determined by subtracting the total of feeds sold during the year plus that used for seed plus that on hand at the end of the year from the quantity raised during the year and that on hand at the beginning of the year. The value of the feeds fed should be arrived at by multiplying quantities fed by an average price for the year. Forms are provided on the right hand side of page 59 to total the value of harvested feeds, pastures and purchased feed fed. Dividing the total value of all feeds fed into the net livestock increase gives us the return per dollar of feed fed. The amount over one dollar is the margin available for livestock costs other than feed costs such as labor, veterinary, taxes, interest, depreciation, repairs on buildings and facilities needed for the livestock. Standards are provided for comparison.

Labor Efficiency

The efficiency with which labor is used on Ohio farms is an extremely important factor. Labor, regardless of its source, is one of, if not the most costly resources used in agriculture today. Under-employed labor is a costly income depressing factor on many farms. One of the more common and readily available measures of efficiency in the use of labor is expressed in terms of "productive man work units of labor performed per worker per year."

The labor force on many farms is made up of several workers with varying capacities for work. It will, therefore, be necessary to recognize the differences in the capacity of those in your own labor force in figuring the quantity of labor available (in terms of man equivalent) to do the work on your farm during the year. The form "Man Equivalents of Labor" (lower center page 60) suggests standards which may be helpful in computing the man months of labor for each worker as well as the total months of man labor which was available during the year. The size of the labor force may be computed and expressed in terms of man equivalents by dividing the total of man months of labor available by 12 (see first line below center table on page 60).

The form on the left side of page 60 is designed for use in computing the total amount of productive man work units of labor done in the crop and livestock enterprises on your farm. The P.M.W.U. requirements given in the center column represent the average number of units (10 hour day) of labor required per acre of crops grown and per head of livestock kept, when the work was done by an average worker using typical methods and equipment.

The average number of P.M.W.U.'s of labor per man equivalent is our most reliable measure of efficiency in the use of labor. This measure can be computed by dividing the total number of P.M.W.U. as figured (the last line in the form on the left hand side of page 60) by the man-equivalent determined below the form in the center of page 60. When using this measure we should keep in mind that few if any farm workers are comparable to the average worker in every respect. Some farmers may use methods and equipment that would not be comparable to those considered to be typical for the State. Thus, it is not uncommon for very efficient and exceptionally well equipped operators to find that they averaged far more productive man work units of labor per man than the 250 P.M.W.U. per man suggested as a minimum standard in the footnote on the bottom of page 60.

Beef Enterprise

Beef cattle performance and efficiency can be measured for both the fattening and cow calf herd with the forms found on pages 60 and 61. For the fattening enterprise the following four measures can be computed:

1. percent of death loss
2. rate of gain
3. feed conversion
4. returns over feed costs

Efficiency in the cow calf herd can be measured by using the following factors found in the form on the upper left hand corner of page 61.

1. percent of calf crop
2. pounds of weaned calf produced per cow

Dairy Enterprise

Dairy enterprise performance and efficiency can be measured by either or both of the following "yardsticks" that can be computed by using the self-explanatory form found on the upper right hand corner of page 61.

1. Average number of pounds of milk sold per cow.

2. Average number of pounds of milk sold per man equivalent (per man).

Dairymen, as well as other livestock producers, should keep in mind that relatively high levels of performance per animal provides no assurance that net earnings will be satisfactory when the herds and flocks are relatively small or when the total volume of products sold is not large. Enough income to more than cover all variable and non-variable costs must be produced by the enterprise for profitable operation. For example, high returns on relatively small amounts of production make relatively small contributions to net earnings. Adequate volume in relation to total costs is prerequisite to yield satisfactory net earnings in the dairy enterprise.

Swine Enterprise

Swine enterprise performance and efficiency can be measured by any or all of the following factors which can be readily computed in forms found on page 61.

(a) feed conversion rate
(b) pounds of pork produced per man
(c) number of pigs raised to weaning age per breeder carried in the herd

Sheep Enterprise

Sheep enterprise measures of performance are readily available through the use of the form in the lower left hand corner of page 61.

(a) Percent lamb crop produced is average number of lambs raised per ewe kept.
(b) Average number of pounds of market lambs produced per ewe.
(c) Average number of pounds of wool produced per adult sheep (no lambs) shorn.

Chickens

Laying flock measure of performance.

(a) Average number of eggs produced per hen (see form at bottom of page 61).

Crop Production

Crop production measures of efficiency: The importance of crop production efficiency cannot be over stressed as an income producing factor when we realize that yields per acre have a direct and very important bearing on volume of crop sales and livestock carrying capacity of the farm.

The table on page 62 shows the profitable producing potentials with good (not super) agronomic practices for 18 of Ohio's more important soil types. You can measure your own crop producing proficiency by making a direct comparison of these yields with the potential yielding capacity of the soil as reported in the table. The relationship of actual to potential yields can

be clearly expressed in terms of the percentages that actual yields are of the potential yields in column 5 of the "Efficiency in Crop Production" form in the upper left hand corner of page 63.

The attainment of exceptionally high yields (well above the potential) may not indicate exceptional efficiency in crop production in terms of low costs of production per unit. Costs per unit of production rather than yields per acre is usually recognized as a more accurate measure of crop production efficiency.

Machinery Costs Per Crop Acre

One of the measures that can help in determining crop production costs is found in the center of page 63 -- machinery costs per acre. This measure is designed to give us the cost per acre of the machinery and equipment used on the farm. Most of the costs can be obtained from the annual farm business summary on page 56. Some adjustments may be required to get just the cost of machinery services used for crop production.

Measures of Efficiency in Finance Management

Overhead. The costs incurred in farming are of two types. Some are variable and increase or decrease as number of acres grown or number of animals fed increase or decrease. More feed is required to feed 50 steers than is required for 30 head. More fuel is required to plow 40 acres than is needed for 20 acres. But some costs are of a fixed nature. The real estate taxes on the farm, the building insurance and depreciation, and interest on investment will be the same whether crops are grown or not, or whether a little or a lot of livestock are fed. In order to understand how important these fixed or overhead charges are, a form to compute how much of gross income (for definition of gross income see middle of section on capital turnover page 63) is absorbed by overhead is included on page 63. A good manager tries to keep the amount of his income devoted to overhead at a minimum. If total volume of business is too low it is hard to keep overhead charges below 30 or 40 percent of gross income.

Capital Turnover. One way to help keep overhead percentage low is to increase the rate of capital turnover. It often is better to have a smaller margin of gain on rather large volume than to strive for a large margin on a small volume. It usually will be better to keep feed lots operating near capacity number all of the time realizing a smaller financial gain on each lot fed rather than only feeding during those few years that you expected big spreads between the price of feeders and of finished fat animals.

At the lower center of page 63 is a form to compute rate of capital turnover with some figures to help you compare the rate you achieve with that of others who have similar type farms.

Operating Margins. Another measure of efficiency in finance management is the operating margin that remains after all charges are deducted from total income. It is the amount of each dollar of income produced that is available for the operator and his family's labor, his managerial skill, interest on his inventment and to reimburse him for the risks he undertakes in his business.

When total expenses are deducted from total income produced, the remaining margin when divided by total income is the operating margin per dollar of income produced. The standards by which this can be judged for your farm are shown at lower right of page 63. On some types of farms, costs consume much higher proportions of total income than on others. Poultry farms may have costs that amount to 75 to 85 percent of total income. Whereas on cash grain farms cost may be as low as 35 percent of income.

It is possible to make many uses of your farm business records. Some of the most useful require only a small amount of time and thought beyond the basic job of determining net farm income. We urge you to put in this small amount of extra time and find out how rewarding it can be.